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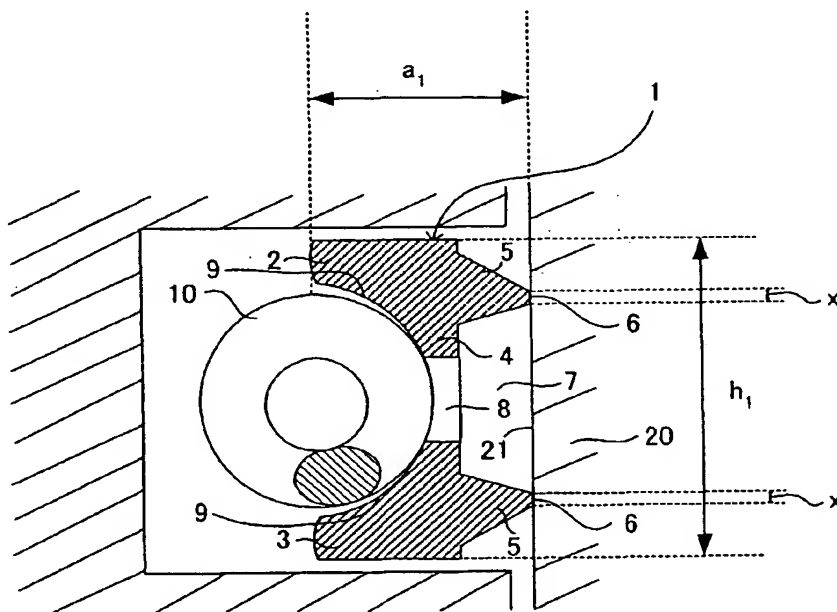
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(54) Title: COMBINATION OIL RING

(54) 発明の名称: 組合せオイルリング



(57) Abstract: A combination oil ring that can provide, even when a coil expander formed from a shape memory alloy is used in it, sufficient tension and excellent oil scraping and oil controlling functions. A combination oil ring is constituted of an oil ring and a coil expander. The oil ring has a substantially letter I-shaped cross-section where two rails are connected by a column portion. The coil expander is provided in an inner peripheral groove formed in the inner periphery side of the column portion, pressing and urging the oil ring radially outward. The combination oil ring is characterized in that the coil expander is made from a shape memory alloy and formed in an irregular shaped wire with a rectangular cross-section.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/004952

A. CLASSIFICATION OF SUBJECT MATTER
Int.Cl⁷ F02F5/00, F16J9/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ F02F1/00-11/00, F16J9/00-9/28

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho	1922-1996	Toroku Jitsuyo Shinan Koho	1994-2004
Kokai Jitsuyo Shinan Koho	1971-2004	Jitsuyo Shinan Toroku Koho	1996-2004

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 9-217831 A (Teikoku Pisuton Ringu Kabushiki Kaisha), 19 August, 1997 (19.08.97), Full text; Figs. 1 to 3 (Family: none)	1-7
Y	JP 7-239031 A (Unisia Jecs Corp.), 12 September, 1995 (12.09.95), Full text; Figs. 1 to 4 (Family: none)	1-7
A	JP 6-66371 A (Kawasaki Heavy Industries, Ltd.), 08 March, 1994 (08.03.94), Full text; Figs. 1 to 7 (Family: none)	1-7

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

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"&" document member of the same patent family

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